Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims</u>:

<u>CLAIMS</u>

1.   (Currently Amended) A method of enabling user interaction with computer software running in a computer system via:

an interface surface having printed thereon: visible information relating to the computer software, and <u>a plurality of tags, each tag containing at least one perspective feature and</u> coded data indicative of an identity of the interface surface <u>and a location on the surface</u> ~~and of a plurality of reference points of the interface surface~~<u>,</u>

<u>said method comprising the steps of:</u>

<u>(a)</u> ; ~~and~~<u>placing a pen, having a nib and an optical sensor,</u>

—————— ~~a sensing device which, when placed~~ in an operative position relative to the interface surface <u>and</u> ; sens<u>ing</u>~~es~~ at least ~~some of the coded data~~<u>one tag</u>;

<u>(b) calculating a two-dimensional perspective transform of the tag using the sensed at least one perspective feature;</u>

<u>(c) generating indicating data using:</u>

——————<u>a known spatial relationship between the pen's physical axis and the pen optical axis, said axes being different from each other;</u>

——————<u>the sensed coded data, and</u>

——————<u>the two-dimensional perspective transform,</u>

<u>said indicating data identifying</u>~~and uses at least some of the sensed coded data to generate indicating data indicative of:~~ the identity of the interface surface~~;~~ and a position of ~~the~~<u>the</u> <u>pen nib</u>~~sensing device~~ relative to the interface surface;

<u>(d) sending the indicating data to a computer system,</u>

<u>thereby enabling the computer system</u>

~~the method including the steps of, in the computer system:~~

~~(a)   receiving the indicating data from the sensing device;~~

(b)   using the indicating data to identify at least one interactive element relating to the computer software;, and

(c)   operatinge the computer software in accordance with instructions associated with the at least one interactive element.

;

wherein at least some of the coded data is substantially invisible to the unaided human eye and is printed onto the surface by means of a printer which also prints the visible information substantially simultaneously with the coded data, the visible information and the coded data being printed via different color channels in the printer.

2.   (Currently amended) A method according to claim 1, wherein the interactive element is associated with a zone of the interface surface, and step (b) includes using the position of the sensing devicepen nib to identify the zone and thereby the interactive element.

3.   (Currently amended) A method according to claim 2, wherein the sensing devicepen generates movement data indicative of its movement relative to the interface surface, using at least some of the coded data, the method including the step of:

        receivingsending, in to the computer system, the movement data.;

        wherein step (b) includes using the movement data to identify the zone and thereby the interactive element.

4.   (Cancelled)

5.   (Cancelled)

6.   (Cancelled)

7.   (Currently amended) A method according to claim 1 or 4, wherein the interactive

element is a hyperlink element relating to the computer software, the method including the step of effecting, in the computer system, an operation associated with the hyperlink element.

8.   (Original) A method according to claim 7, including the step of sending, in the computer system, data to the computer software indicative of the hyperlink element.

9.   (Original) A method according to claim 8, including the step of sending, in the computer system, data to the computer software indicative of a name and/or value of at least one field related to the computer software.

10.   (Original) A method according to claim 7, including the step of sending, in the computer system, data to the computer software indicative of a selected object.

11.   (Currently amended) A method according to claim 1-or-4, wherein the interactive element is a checkbox field relating to the computer software, the method including the steps of identifying, in the computer system, that the user has entered a hand-drawn mark by means of the sensing-devicepen and effecting, in the computer system, an operation associated with the checkbox field.

12.   (Original) A method according to claim 11, including the step of associating, in the computer system, a true value with the checkbox field.

13.   (Original) A method according to claim 11, including the step of sending, in the computer system, data to the computer software indicative of at least the checkbox field.

14.   (Currently amended) A method according to claim 1-or-4, wherein the interactive element is a text field relating to the computer software, the method including the steps of identifying, in the computer system, that the user has entered handwritten text data by means of the sensing-devicepen and effecting, in the computer system, an operation associated with

the text field.

15.   (Original) A method according to claim 14, including the step of converting, in the computer system, the handwritten text data to computer text.

16.   (Original) A method according to claim 15, including the step of associating, in the computer system, the computer text with the text field.

17.   (Original) A method according to claim 14, including the step of sending, in the computer system, data to the computer software indicative of at least the text field.

18.   (Currently amended) A method according to claim 1 ~~or 4~~, wherein the interactive element is a signature field relating to the computer software, the method including the steps of identifying, in the computer system, that the user has entered a handwritten signature by means of the ~~sensing device~~pen and effecting, in the computer system, an operation associated with the signature field.

19.   (Original) A method according to claim 18, including the step of verifying, in the computer system, that the signature is that of the user.

20.   (Original) A method according to claim 19, including the step of generating, in the computer system and using a signature key of the user, a digital signature of at least data indicative of a name and/or value of at last one field related to the computer software.

21.   (Original) A method according to claim 20, including the step of associating, in the computer system, the digital signature with the signature field.

22.   (Original) A method according to claim 18, including the step of sending, in the computer system, data to the computer software indicative of at least the signature field.

23.   (Currently amended) A method according to claim 1 or 4, wherein the interactive element is a drawing field related to the computer software, the method including the steps of identifying, in the computer system, that the user has entered a hand-drawn picture by means of the sensing devicepen and effecting, in the computer system, an operation associated with the drawing field.

24.   (Original) A method according to claim 23, including the step of activating, in the computer system, a hyperlink.

25.   (Previously Presented) A method according to claim 23, including the step of sending, in the computer system, data to the computer software indicative of at least the drawing field.

26.   (Currently amended) A method according to claim 1 or 4, including the step of printing the interface surface on demand.

27.   (Original) A method according to claim 26, including the step of substantially simultaneously printing the interface surface and the coded data onto a substrate.

28.   (Cancelled)

29.   (Currently amended) A method according to claim 1 or 4, including the step of retaining a retrievable record of each interface surface printed, the interface surface being retrievable using the identity contained in its associated coded data.

30.   (Currently amended) A method according to claim 1 or 4, including the step of distributing a plurality of the interface surfaces using a mixture of multicast and pointcast communications protocols.

31.   (Currently amended) A method according to claim 1 ~~or 4~~, the ~~sensing device~~pen containing an identification means that imparts a unique identity to the ~~sensing device~~pen and identifies it as belonging to a particular user, wherein the method includes the step of monitoring, in the computer system, said identity.

32.   (Currently amended) A method according to claim 1 ~~or 4~~, including the step of providing sufficient coded data relating to the computer software in the interface surface to eliminate the need for a separate display device.

33.   (Currently amended) A method according to claim 1 ~~or 4~~, wherein the interface surface is printed on multiple pages, the method including the step of binding the pages.

34.   (Cancelled)

35.   (Cancelled)

36.   (Currently amended) A method according to claim ~~35~~1, wherein the surface is defined by a substrate.

37.   (Original) A method according to claim 36, wherein the substrate is laminar.

38.   (Currently amended) A method according to claim ~~35~~1, wherein the tags are disposed at predetermined positions on the surface.

39.   (Original) A method according to claim 38, wherein the tags are disposed on the surface within a tessellated pattern comprising a plurality of tiles, each of the tiles containing a plurality of the tags.

40.   (Original) A method according to claim 39, wherein the tiles interlock with each other to substantially cover the surface.

41.   (Original) A method according to claim 40, wherein the tiles are all of a similar shape.

42.   (Original) A method according to claim 41, wherein the tiles are triangular, square, rectangular or hexagonal.

43.   (Original) A method according to claim 39, wherein the tags are disposed stochastically within each of the tiles.

44.   (Original) A method according to claim 35, wherein each of the tags includes at least one common feature in addition to the second identity data.

45.   (Original) A method according to claim 44, wherein at least one common feature is configured to assist finding and/or recognition of the tags by associated tag reading apparatus.

46.   (Original) A method according to claim 44, wherein the at least one common feature is represented format incorporating redundancy of information.

47.   (Original) A method according to claim 46, wherein the at least one common feature is rotationally symmetric so as to be rotationally invariant.

48.   (Original) A method according to claim 46, wherein the at least one common feature is ring-shaped.

49.   (Original) A method according to claim 35, wherein each of the tags includes at

least one orientation feature for enabling a rotational orientation of the tag being read to be ascertained.

50.   (Original) A method according to claim 49, wherein the at least one orientation feature is represented in a format incorporating redundancy of information.

51.   (Original) A method according to claim 50, wherein the at least one orientation feature is rotationally asymmetric.

52.   (Original) A method according to claim 50, wherein the at least one orientation feature is skewed along its major axis.

53.   (Cancelled)

54.   (Currently amended) A method according to claim 5̶3̶1, wherein the at least one perspective feature includes at least four sub-features which are not coincident.

55.   (Currently amended) A method according to claim 3̶5̶1, wherein each tag includes a plurality of tag elements, the first and second identity data each being defined by a plurality of the elements.

56.   (Original) A method according to claim 55, wherein the tag elements are disposed in one or more arcuate bands around a central region of each tag.

57.   (Original) A method according to claim 56, wherein there are a plurality of the arcuate bands disposed concentrically with respect to each other.

58.   (Original) A method according to claim 57, wherein each element takes the form of a dot having a plurality of possible values.

59.   (Original) A method according to claim 58, wherein the number of possible values is two.

60.   (Original) A method according to claim 58, wherein when representing one of the possible values, the tag elements absorb, reflect or fluoresce electromagnetic radiation of a predetermined wavelength or range of wavelengths to a predetermined greater or lesser extent than the surface.

61.   (Original) A method according to claim 58, wherein the possible values of the tag elements are defined by different relative absorption, reflection or fluorescence of electromagnetic radiation of a predetermined wavelength or range of wavelengths.

62.   (Original) A method according to claim 58, wherein the tags are not substantially visible to an average unaided human eye under daylight or ambient lighting conditions.

63.   (Original) A method according to claim 58, wherein the tags are slightly visible to an average unaided human eye under daylight or ambient lighting conditions.

64.   (Original) A method according to claim 58, wherein the tags are visible to an average unaided human eye under daylight or ambient lighting conditions.

65.   (Currently amended) A method according to claim 35~1, wherein the first coded identity~data is represented in a format incorporating redundancy of information.

66.   (Cancelled)

67.   (Cancelled)

68.   (Currently amended) A method according to claim ~~34~~1, wherein the ~~tags a printed using printer is~~ an inkjet printer.

69.   (Original) A method according to claim 68, wherein the tags are printed using ink that is absorbent or reflective in the ultraviolet spectrum or the infrared spectrum.

70.   (Cancelled)

71.   (Previously Presented) A method according to claim 68, wherein the visible information is printed onto the surface using colored or monochrome inks.

72.   (Original) A method according to claim 71, wherein the additional information is printed onto the surface using one of the following combinations of colored inks:

CMY;

CMYK;

CMYRGB; and

spot colour.

73.   (Currently amended) A method according to claim ~~34~~1, wherein at least a plurality of the tags are disposed stochastically upon the surface.

74.   (Currently amended) A method according to claim ~~34~~1, wherein the tags are disposed in a regular array on the surface.

75.   (Original) A method according to claim 74, wherein the array is triangular.

76.   (Original) A method according to claim 74, wherein the array is rectangular.

77.   (Original) A method according to claim 75, wherein the tags are tiled over the surface.

78.   (Currently amended) A method according to claim 34 1 further including additional non-tag information disposed on the surface.

79.   (Currently amended) A method according to claim 1 or 4, wherein the region surface is identified with sufficient precision to distinguish the region from 10^{15} other regionssurfaces.

80.   (Currently amended) A method according to claim 1 or 4, wherein any 10 millimetre diameter subregion of the region surface includes sufficient coded data to identify the regionsurface.

81.   (Currently amended) A method according to claim 80, wherein any 10 millimetre subregion of the region surface includes sufficient coded data to identify at least one point of the regionsurface.

82.   (Currently Amended) A system for enabling user interaction with computer software running in a computer system via, said system comprising:

        an interface surface having printed thereon: visible information relating to the computer software, and a plurality of tags, each tag containing at least one perspective feature and coded data indicative of an identity of the interface surface and of a plurality of reference points of the interface surfacea location on the surface; and

        a sensing deviceepen, having a nib, an optical sensor and a processor, configured for:

which, when placed in an operative position relative to the interface surface, senses at least some of the coded data, and uses at least some of the sensed coded data to generate to sense indicating data indicative of: the identity of the interface surface; and a position of the sensing device relative to the interface surface;

~~the system being configured to, in the computer system:~~

~~(a)   receive the indicating data from the sensing device;~~

~~(b)   use the indicating data to identify at least one interactive element relating to the computer software; and~~

~~(e)   operate the computer software in accordance with instructions associated with the at least one interactive element,~~

~~wherein at least some of the coded data is substantially invisible to the unaided human eye and is printed onto the surface by means of a printer which also prints the visible information substantially simultaneously with the coded data, the visible information and the coded data being printed via different color channels in the printer.~~(a) sensing at least one tag;

(b) calculating a two-dimensional perspective transform of the tag using the sensed at least one perspective feature;

(c) generating indicating data using:

          a known spatial relationship between the pen's physical axis and the pen optical axis, said axes being different from each other;

          the sensed coded data, and

          the two-dimensional perspective transform,

said indicating data identifying the identity of the interface surface and a position of the pen nib relative to the interface surface;

(d) sending the indicating data to a computer system,

thereby enabling the computer system to identify at least one interactive element relating to the computer software, and operate the computer software in accordance with instructions associated with the at least one interactive element.

83.   (Currently amended)A system according to claim 82, wherein the interactive element is associated with a zone of the interface surface, the system being configured to use the position of the ~~sensing device~~pen nib to identify the zone and thereby the interactive element.

84.   (Currently amended) A system according to claim 83, wherein the ~~sensing device~~pen generates movement data indicative of its movement relative to the interface surface using at least some of the coded data.~~, the computer system being configured to receive the movement data, wherein (b) includes using the movement data to identify the zone and thereby the interactive element.~~

85.   (Currently amended) A system according to claim 82, further including the ~~sensing device~~computer system.

86.   (Cancelled)

87.   (Cancelled)

88.   (Cancelled)

89.   (Cancelled)

90.   (Currently amended) A system according to claim 82~~ or 86~~, wherein the interactive element is a hyperlink element relating to the computer software, the computer system being configured to effect an operation associated with the hyperlink element.

91.   (Original) A system according to claim 90, wherein the computer system is configured to send, to the computer software, data indicative of the hyperlink element.

92.   (Currently amended) A system according to any one of claims 82~~ or 86~~, the computer being configured to send, to the computer software, data indicative of a name and/or value of at least one field related to the computer software.

93.   (Currently amended) A system according to any one of claims 82 or 86, the computer being configured to send, to the computer software, data indicative of a selected object.

94.   (Currently amended) A system according to claim 82 or 86, wherein the interactive element is a checkbox field relating to the computer software, the computer system being configured to:

identify that the user has entered a hand-drawn mark by means of the sensing device pen; and effect an operation associated with the checkbox field.

95.   (Currently amended) A system according to claim 94, wherein the computer system is configured to associate a true value with the checkbox field.

96.   (Currently amended) A system according to 95, wherein the computer system is configured to send data to the computer software indicative of at least the checkbox field.

97.   (Currently amended) A system according to claim 84 or 86, wherein the interactive element is a text field relating to the computer software, the computer system being configured to:

identify that the user has entered handwritten text data by means of the sensing device pen; and effect an operation associated with the text field.

98.   (Original) A system according to claim 97, the computer system being configured to convert the handwritten text data to computer text.

99.   (Original) A system according to claim 98, the computer system being configured to associate the computer text with the text field.

100.   (Original) A system according to 97, the computer system being configured to send data to the computer software indicative of at least the text field.

101.   (Currently amended) A system according to 82~~or 86~~, wherein the interactive element is a signature field relating to the computer software, the computer system being configured to:

identify that the user has entered a handwritten signature by means of the ~~sensing device~~pen; and

effect an operation associated with the signature field.

102.   (Original) A system according to claim 101, the computer system being configured to verify that the signature is that of the user.

103.   (Original) A system according to claim 102, the computer system being configured to use a signature key associated with the user to generate a digital signature of at least data indicative of a name and/or value of at last one field related to the computer software.

104.   (Original) A system according to claim 103, the computer system being configured to associate the digital signature with the signature field.

105.   (Original) A system according to claim 101, the computer system being configured to send, to the computer software, data indicative of at least the signature field.

106.   (Currently amended) A system according to claims 82~~or 86~~, wherein the interactive element is a drawing field related to the computer software, the computer system being configured to:

identify that the user has entered a hand-drawn picture by means of the ~~sensing device~~pen; and

effect an operation associated with the drawing field.

107.   (Original) A system according to method of claim 106, wherein the computer system is configured to activate a hyperlink.

108.   (Original) A system according to claim 107, the computer system being configured to send, to the computer software, data indicative of at least the drawing field.

109.   (Currently amended) A system according to claim 84 ~~or 86, further including the sensing device,~~ wherein the ~~sensing device~~pen includes a marking nib.

110.   (Currently amended) A system according to claim 84 ~~or 86, further including the sensing device,~~ wherein the ~~sensing device~~pen contains identifying data indicative of an identity of the user

111.   (Currently amended) A system according to claim 110, the computer system being configured to monitor the identifying data when the ~~sensing device~~pen is in use.

112.   (Currently amended) A system according to claim 82 ~~or 86~~, the computer system including a printer to print the information onto the interface surface on demand.

113.   (Original) A system according to claim 112, the computer system being configured to substantially simultaneously print the information and the coded data onto the interface surface.

114.   (Currently amended) A system according to claim 82 ~~or 86~~, wherein the coded data is substantially invisible to an unaided human eye.

115.   (Currently amended) A system according to claim 82 ~~or 86~~, the computer system being configured to retain a retrievable record of each interface surface printed, the interface

surface being retrievable using the identity contained in its associated coded data.

116.   (Currently amended) A system according to claim 82~~-or 86~~, the information being sufficiently detailed in relation to the computer software that a user can interact with the computer system without the need for a separate display device.

117.   (Currently amended) A system according to claim 82~~-or 86~~, the system being configured to distribute a plurality of the interface surfaces using a mixture of multicast and pointcast communications protocols.

118.   (Original) A system according to claim 112, wherein the printer includes a binding mechanism for binding multiple interface surfaces, defined by multiple corresponding pages, into a bound document.

119.   (Cancelled)

120.   (Cancelled)

121.   (Currently amended) A system according to claim ~~120~~82, wherein the surface is defined by a substrate.

122.   (Original) A system according to claim 121, wherein the substrate is laminar.

123.   (Currently amended) A system according to claim ~~119~~82, wherein the tags are disposed at predetermined positions on the surface.

124.   (Original) A system according to claim 123, wherein the tags are disposed on the surface within a tessellated pattern comprising a plurality of tiles, each of the tiles containing a plurality of the tags.

125.   (Original) A system according to claim 124, wherein the tiles interlock with each other to substantially cover the surface.

126.   (Original) A system according to claim 125, wherein the tiles are all of a similar shape.

127.   (Original) A system according to claim 126, wherein the tiles are triangular, square, rectangular or hexagonal.

128.   (Original) A system according to claim 124, wherein the tags are disposed stochastically within each of the tiles.

129.   (Original) A system according to claim ~~120~~82, wherein each of the tags includes at least one common feature in addition to the second identity data.

130.   (Original) A system according to claim 129, wherein the at least one common feature is configured to assist finding and/or recognition of the tags by associated tag reading apparatus.

131.   (Original) A system according to claim 129, wherein the at least one common feature is represented format incorporating redundancy of information.

132.   (Original) A system according to claim 131, wherein the at least one common feature is rotationally symmetric so as to be rotationally invariant.

133.   (Original) A system according to claim 132, wherein the at least one common feature is ring-shaped.

134.   (Currently amended) A system according to claim ~~119~~82, wherein each of the tags includes at least one orientation feature for enabling a rotational orientation of the tag being read to be ascertained.

135.   (Original) A system according to claim 134, wherein the at least one orientation feature is represented in a format incorporating redundancy of information.

136.   (Original) A system according to claim 135, wherein the at least one orientation feature is rotationally asymmetric.

137.   (Original) A system according to claim 136, wherein the at least one orientation feature is skewed along its major axis.

138.   (Cancelled)

139.   (Currently amended) A system according to claim ~~138~~82, wherein the at least one perspective feature includes at least four sub-features, the relative positions of which define a non-degenerate quadrilateral.

140.   (Currently amended) A system according to claim ~~120~~82, wherein each tag includes a plurality of tag elements, the first and second identity data each being defined by a plurality of the elements.

141.   (Original) A system according to claim 140, wherein the tag elements are disposed in one or more arcuate bands around a central region of each tag.

142.   (Original) A system according to claim 141, wherein there are a plurality of the arcuate bands disposed concentrically with respect to each other.

143.   (Currently amended) A system according to claim ~~123~~140, wherein each element takes the form of a dot having a plurality of possible values.

144.   (Original) A system according to claim 143, wherein the number of possible values is two.

145.   (Original) A system according to claim 143, wherein when representing one of the possible values, the tag elements absorb, reflect or fluoresce electromagnetic radiation of a predetermined wavelength or range of wavelengths to a predetermined greater or lesser extent than the surface.

146.   (Original) A system according to claim 143, wherein the possible values of the tag elements are defined by different relative absorption, reflection or fluorescence of electromagnetic radiation of a predetermined wavelength or range of wavelengths.

147.   (Original) A system according to claim 143, wherein the tags are not substantially visible to an average unaided human eye under daylight or ambient lighting conditions.

148.   (Original) A system according to claim 143, wherein the tags are slightly visible to an average unaided human eye under daylight or ambient lighting conditions.

149.   (Original) A system according to claim 143, wherein the tags are visible to an average unaided human eye under daylight or ambient lighting conditions.

150.   (Currently amended) A system according to claim ~~120~~82, wherein the ~~first identity~~coded data is represented in a format incorporating redundancy of information.

151.   (Cancelled)

152.   (Currently amended) A system according to claim ~~119~~82, wherein the tags are printed onto the surface by means of a printer.

153.   (Original) A system according to claim 152, wherein the printer is an ink printer.

154.   (Original) A system according to claim 153, wherein the tags are printed using ink that is absorbent or reflective in the ultraviolet spectrum or the infrared spectrum.

155.   (Original) A system according to claim 152, wherein the printer also prints additional information onto the surface.

156.   (Original) A system according to claim 155, wherein the additional information is printed onto the surface using colored or monochrome inks.

157.   (Original) A system according to claim 156, wherein the additional information is printed onto the surface using one of the following combinations of colored inks:

        CMY;

        CMYK;

        CMYRGB; and

        spot colour.

158.   (Currently amended) A system according to claim ~~119~~82, wherein at least a plurality of the tags are disposed stochastically upon the surface.

159.   (Original) A system according to claim 158, wherein the tags are disposed in a regular array on the surface.

160.   (Original) A system according to claim 159, wherein the array is triangular.

161.   (Original) A system according to claim 159, wherein the array is rectangular.

162.   (Original) A system according to claim 159, wherein the tags are tiled over the surface.

163.   (Currently amended) A system according to claim ~~119~~82, further including additional non-tag information disposed on the surface.

164.   (Currently amended) A system according to claim 82 ~~or 86~~, wherein the ~~region~~ surface is identified with sufficient precision to distinguish the region from 10^{15} other ~~regions~~surfaces.

165.   (Currently amended) A system according to claim 82 ~~or 86~~, wherein any 10 millimetre diameter subregion of the ~~region~~ surface includes sufficient coded data to identify the ~~region~~surface.

166.   (Currently amended) A system according to claim 165, wherein any 10 millimetre subregion of the ~~region~~ surface includes sufficient information to identify at least one point of the ~~region~~surface.

167.   (Currently amended) A method according to ~~any one of claims 1, 4, 82 or 86~~claim 1, wherein the coded data is machine readable and the information represented by the coded data is substantially inscrutable to an unaided human.

168. – 180. (Cancelled)